AMENDMENTS TO THE CLAIMS

1. (Currently amended) An ultra wideband antenna comprising:

a combined Vivaldi notch antenna and a meander line loaded antenna, said Vivaldi notch antenna dominating for a high frequency range of said antenna and said meander line loaded antenna dominating for a continuous low frequency range of said antenna, the change over between high and low frequencies being smooth and without discontinuities.

2. (Canceled)

3. (Currently amended) The antenna of Claim ~~2~~ 1, wherein said antenna includes a top plate having a Vivaldi notch at one end thereof, said Vivaldi notch having a throat, a cavity behind said throat, a slot behind said cavity, and side plates to either side of said top plate, said side plates each including a meander line for coupling the side plate to a portion of said top plate to a side of said slot.

4. (Original) The antenna of Claim 3, wherein the physical size of said antenna is minimized by said meander lines, thus to permit arraying of said antennas without producing grating lobes.

5. (Original) The antenna of Claim 4, wherein the width of said top plate is less than 0.5 wavelengths at the highest frequency at which said antenna is to operate.

6. (Currently amended) The antenna of Claim 1, wherein said antenna is linearly polarized.

7. (Original) The antenna of Claim 3, wherein said meander lines are coupled to exterior surfaces of said plates.

8. (Original) A method of extending the operating frequency range of a Vivaldi notch antenna, coupling the steps of:

providing the Vivaldi notch antenna with a rearwardly extending slot from the throat thereof, and

providing a meander line loaded antenna having at least one side plate coupled to said Vivaldi notch antenna by the meander line thereof, whereby a combined Vivaldi notch and meander line loaded antenna is formed with the Vivaldi notch extending the high frequency cut-off of the antenna and with the meander line loaded antenna extending the low frequency cut-off of this antenna, thus to provide an ultra wide bandwidth antenna.

9. (Currently amended) The method of Claim ~~1~~–8, and further including the step of providing a cavity between the throat of the Vivaldi notch and the slot, thus to provide an end fire antenna.

10. (Original) The method of Claim 9, wherein the Vivaldi notch is provided in a plate having a width less than 0.5 wavelengths at the high frequency cut-off of the antenna, thus to

preclude the generation of grating lobes when said antenna is arrayed with other Vivaldi notch/meander line loaded antennas.